

REMARKS

The Examiner is thanked for the thorough examination of the present application. The Office Action, however, tentatively rejected all claims 1-20. Specifically, claims 1-19 stand rejected under either 35 U.S.C 102(b) or 35 U.S.C. 103(a) in view of *Comita* (USP 6,368,567) and/or *Tamaki* (USP 5,546,890).

Claim 20 Not Rejected

Claim 20 is cited as being rejected in the Office Action Summary. However, claim 20 has not been mentioned in the body of the Office Action rejections. Therefore, it is believed that claim 20 is allowable. If an ensuing Office Action rejects claim 20, any such Office Action should be made non-Final. In this regard, any application of the prior art against claim 20 will constitute new grounds of rejection, which would not have been necessitated by any amendment.

Among the pending claims, independent claims 1, 9, and 16 are amended to include additional features. These amendments render the rejections moot. Notwithstanding, Applicant submits the following additional distinguishing remarks.

One added step in claim 1 is “placing a substrate in said process chamber.” Support for this feature is provided in the original application, including step S4 in Fig. 2 of the original specification. Another added step is claim 1 is “depositing a material film on said substrate and on said repellent coating layer on said interior surfaces.” Support for this step can be found in step S5 in Fig. 2 and the relevant description in page 17 of the original specification. Step of “removing said substrate with said material film from said process chamber” is also added into claim 1. Support for this step is found by step

S6 in Fig. 2. The cleaning step of claim 1 is specialized to clean “said material film on said interior surfaces” and support can be found by both step S7 in Fig. 2 and the text in the first 5 lines of paragraph [0035]. As lines 11-16 of paragraph [0036] states that no residual HCl remains due to the presence of the repellent coating layer 30 when subsequent substrate 24 are processed in the chamber 10, the feature that “after the step of cleaning at least part of said repellent coating layer is still present on said interior surfaces” is also added into claim without introducing new matters. Consequently, the amendments to claim 1 add no new matter to the application.

Claims 9 and 16 are amended to include the same features added to claim 1.

Response To Claim Rejections Under 35 U.S.C. §102

Claims 1-2 and 5 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by *Comita*. Applicant respectfully requests reconsideration and withdrawal of these rejections on the grounds that *Comita* fails to disclose, teach or suggest all elements of the claimed embodiments.

Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. See *e.g.*, *In re Paulsen*, 30 F.3d 1475, 31 USPQ 2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ 2d 1655 (Fed. Cir. 1990).

Independent 1, as amended, recites:

1. A method of cleaning a process chamber having interior surfaces, comprising the steps of:
 - providing a repellent coating layer of first polarity on said interior surfaces of said process chamber;
 - placing a substrate in said process chamber;

depositing a material film on said substrate and on said repellent coating layer on said interior surfaces;

removing said substrate with said material film from said process chamber; and

cleaning said material film on said interior surfaces of said process chamber by introducing a cleaning gas of second polarity opposite said first polarity into said process chamber;

wherein, after the step of cleaning, at least part of said repellent coating layer is present on said interior surfaces.

(*Emphasis Added*). Independent claim 1 is allowable for at least the reason that *Comita* does not disclose, teach, or suggest the features that are emphasized in claim 1 above.

More specifically, as the Office Action in page 3 takes “the position that the silicon is the repellent coating and that HCl is the cleaning gas”, silicon (the repellent coating of *Comita*) is cleaned or removed by the clean gas and remains nothing after the cleaning step taught by *Comita*. *Comita* in Fig. 5 and in the first line of Col. 11 clearly expresses the purpose of eliminating CR (condensation region), such that silicon exists no more after cleaning. In contrast, at least part of the repellent coating in claim 1 is required to be present on the interior surfaces after the cleaning step. Accordingly, as *Comita* fails to disclose at least one feature in claim 1, *Comita* cannot anticipate claim 1 and the rejection of claim 1 is respectfully requested to be withdrawn.

As claim 1 is allowable over the prior art of record, then its dependent claims 2 and 5 are allowable as a matter of law, because these dependent claims contain all features/elements/steps of their respective independent claim 1. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

Response To Claim Rejections Under 35 U.S.C. §103

Claims 3-4, 6, 9-13 and 16-19 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Comita*. Claims 7-8 and 14-15 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Comita* in view of *Tamaki*. Applicant respectfully traverses this rejection on the ground that *Comita* and *Tamaki*, individually or in combination, fail to disclose, teach or suggest all elements of the claimed invention

In order for a claim to be properly rejected under 35 U.S.C. §103, the teachings of the prior art reference must suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In re Dow Chemical*, 837 F.2d 469, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988); *In re Keller*, 642 F.2d 413, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

Claims 3-4 and 6

Claims 3-4 and 6-8 depend from independent claim 1, which, as described in the remarks for the patentability of claim 1, has at least one feature not disclosed by *Comita*. The feature is that “after the step of cleaning, said repellent coating layer is still present on said interior surfaces.”

The Office Action in page 4 cites *Tamaki*, referring to ClF_3 gas as a cleaning gas for silicon and silicon carbide and concluding that removing silicon carbide instead of silicon is obvious to a person skilled in the art. As the Office Action recognized, the combination of *Comita* and *Tamaki* will teach to clean silicon carbide, the exemplified material of the repellent coating layer in the current application. In contrast, it is required in claim 1 that “after the step of cleaning, at least part of said repellent coating layer is present on said interior surfaces.” Accordingly, *Comita* and *Tamaki* fail to disclose at least one feature

in the claimed invention of claim 1 such that claim 1 is patentable over the cited prior art references. As claims 3-4 and 6-8 depend from patentable claim 1, they are also patentable as a matter of law.

Claims 9-15

Independent claim 9 is currently amended to include the feature that “after the step of cleaning, said repellent coating layer is still present on said interior surfaces.” As discussed, this feature is not disclosed by *Comita* and *Tamaki*, such that independent claim 9 is also patentable over the cited prior art references. As claims 10-15 depend from patentable claim 9, they are patentable as a matter of law.

Claim 16-19

Independent claim 16 is currently amended to include the feature that “after the step of cleaning, said repellent coating layer is still present on said interior surfaces.” As discussed, this feature is not disclosed by *Comita* and *Tamaki*, such that independent claim 16 is also patentable over the cited prior art references. As claims 17-19 depend from patentable claim 16, they are patentable as a matter of law.

As noted above, claim 20 was not addressed in the body of the Office Action is believe to be allowable. Independently, claim 20 is patentable for its dependency from allowable claim 16.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-20 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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